9:30	SMART: Safety and Mission Assurance Requirements	Alan Hankinson (GSFC) Al Gallo (GSFC)	Safety and related issues continue to be an area of primary concern across the entire NASA community. Historically, system safety issues clearly associated with hardware have been addressed via well - defined procedures and processes. Specific hardware components – specifically those considered safety critical – are identified early in the development process, and carefully monitored throughout the remainder of the system lifecycle. The primary objective of the Safety & Mission Assurance Requirements Tool (SMART) is to automate the process of identifying safety and mission assurance-related requirements in order to better manage the components that implement these requirements. Using a customizable set of keywords and phrases (indicators), the tool automatically scans a requirements document to identify key areas that can potentially impact both safety and mission assurance.
10:00	Efficient Nondestructive Evaluation of Prototype Carbon Fiber Reinforced Structures	Samuel Russell (MSFC) James Walker (MSFC)	Thermography and shearography methods of inspection rely on optic based technologies and can reduce the time and cost required to inspect composite tanks or aero structures. Usually areas identified as suspect in the initial inspection results are reexamined with ultrasonic methods. This combination of techniques results in a rapid and comprehensive inspection of composite structures. Development of useful defect standards will be discussed. Examples of application of this inspection philosophy to prototype, GSE, and flight hardware will be presented. Methods organizing the inspection and evaluating the results will be considered.
10:45	NDE of Microelectronics by Real Time X-ray Imaging	David Mih (JPL)	Real time X-ray has been demonstrated as an effective NDE tool for microelectronic components and miniature assemblies. Overview of the micro-focus real-time x-ray system at JPL will be presented and illustrated. This system is specifically designed with high-magnification, ideal for close-up viewing of small electronic and mechanical packages. The acquisition of x-ray in real-time eliminates the trial and error method as compared to conventional film x-ray method. Instead of film, an image intensifier is used to capture and convert x-ray to a viewable video signal via CCD camera. This technique eliminates repeat parts exposure, film development, and part position adjustment. Benefits and limitations with various types of microelectronic packages will be discussed based on inspect ability.